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PATENT & TRADEMARK OFFICE

FIG. 1

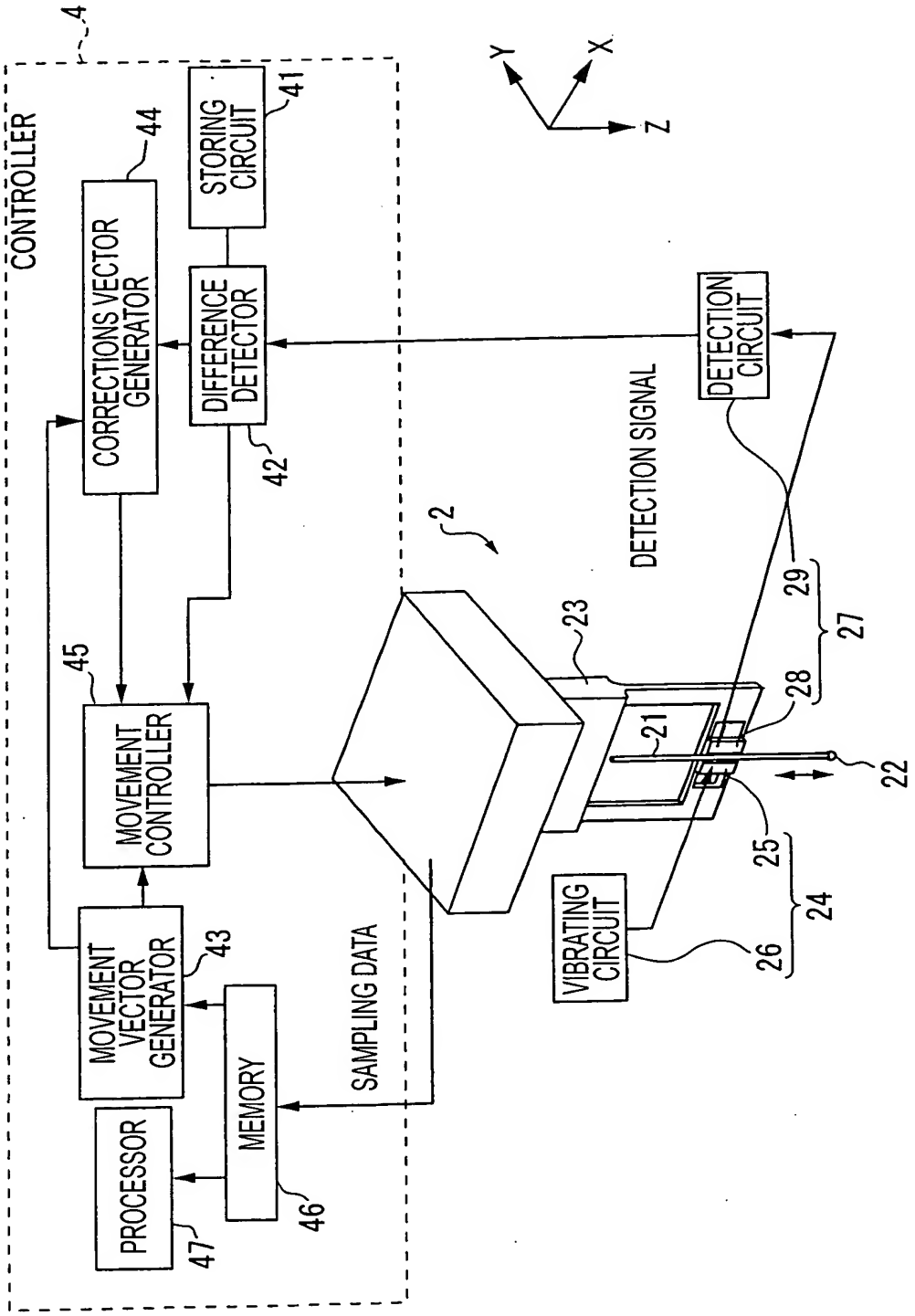

FIG. 2

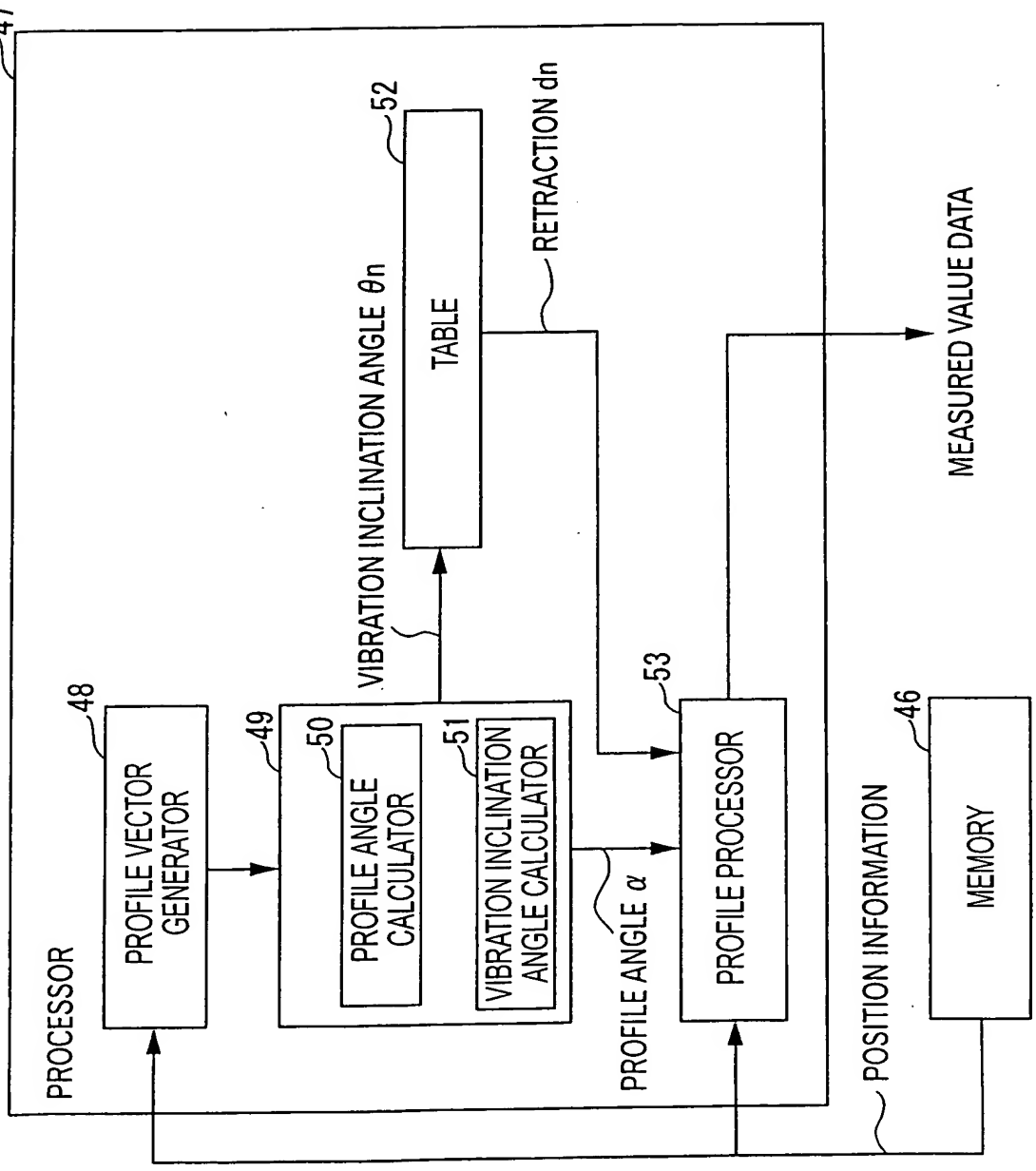
47
PROCESSOR
48
PROFILE VECTOR GENERATOR
49
50
PROFILE ANGLE CALCULATOR
51
VIBRATION INCLINATION ANGLE CALCULATOR
VIBRATION INCLINATION ANGLE θn
52
TABLE
RETRACTION dn
53
PROFILE ANGLE α
PROFILE PROCESSOR
MEASURED VALUE DATA
46
MEMORY
POSITION INFORMATION

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FIG. 8

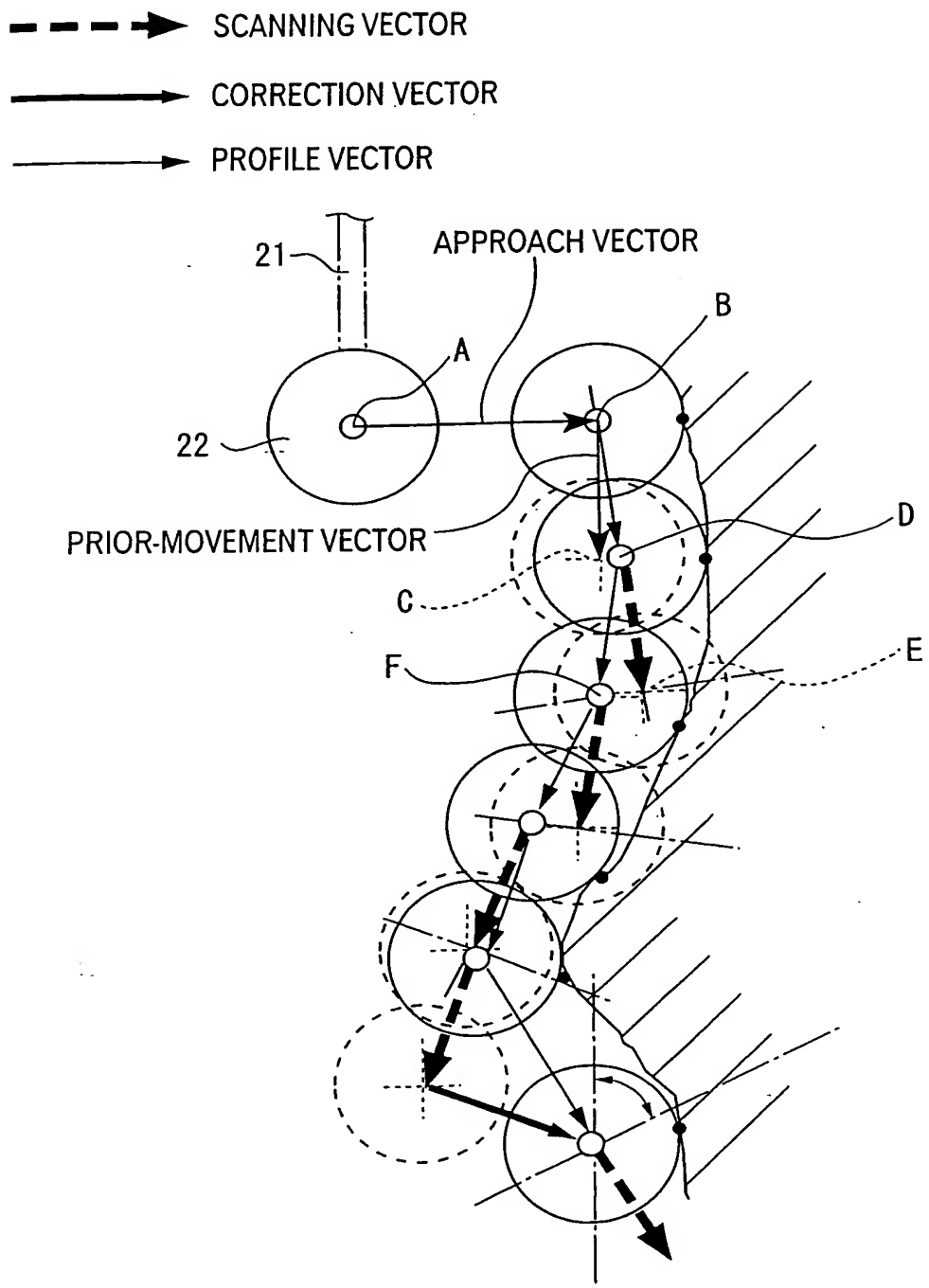
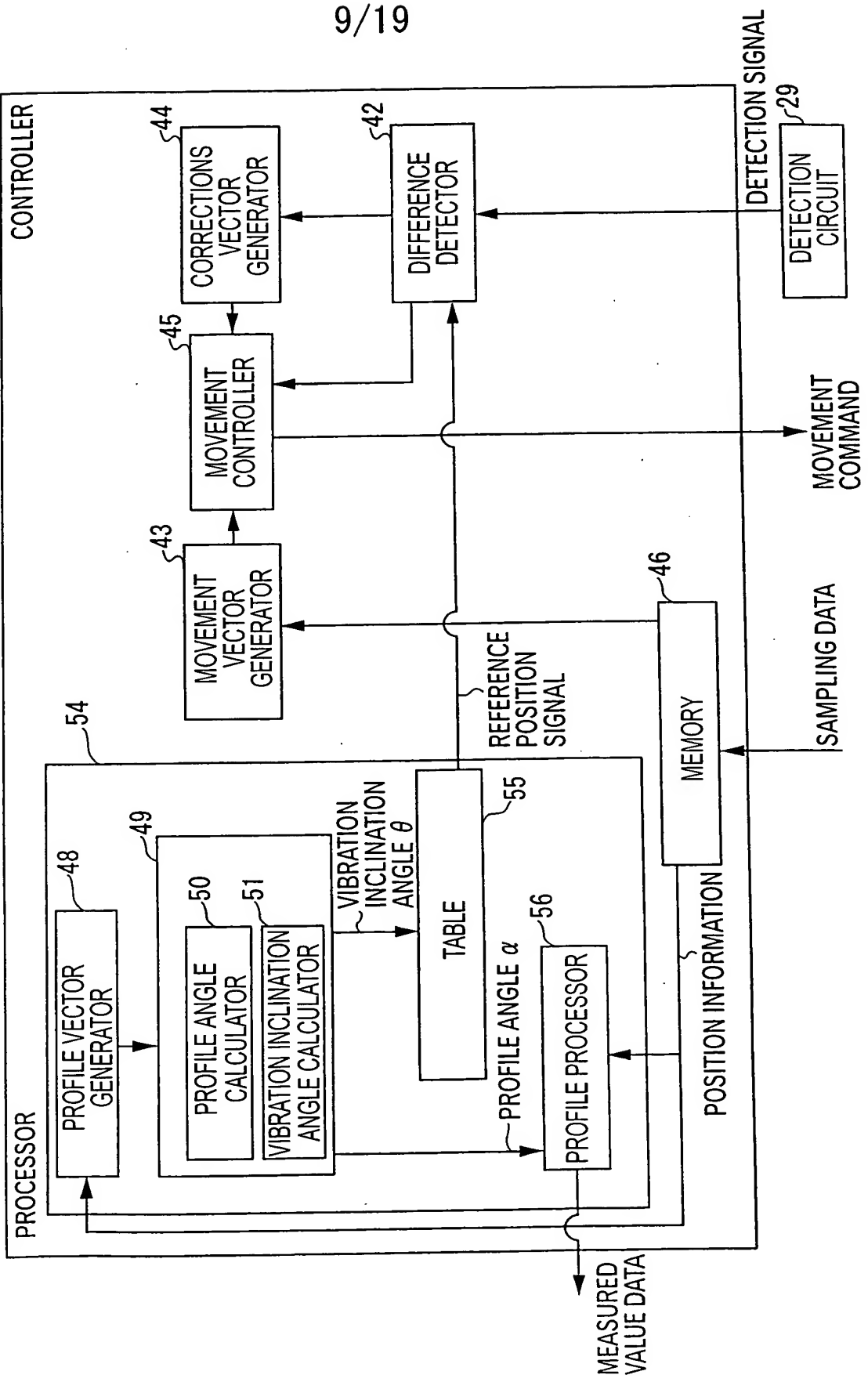

SCANNING VECTOR
CORRECTION VECTOR
PROFILE VECTOR
21
APPROACH VECTOR
B
A
22
PRIOR-MOVEMENT VECTOR
D
C
F
E

FIG. 9


4
CONTROLLER
44
CORRECTIONS VECTOR GENERATOR
42
DIFFERENCE DETECTOR
29
DETECTION CIRCUIT
DETECTION SIGNAL
45
MOVEMENT CONTROLLER
MOVEMENT COMMAND
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MOVEMENT VECTOR GENERATOR
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MEMORY
SAMPLING DATA
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PROFILE VECTOR GENERATOR
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PROFILE ANGLE CALCULATOR
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VIBRATION INCLINATION ANGLE CALCULATOR
VIBRATION INCLINATION ANGLE θ
TABLE
55
PROFILE ANGLE α
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PROFILE PROCESSOR
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FIG. 14
PRIOR ART

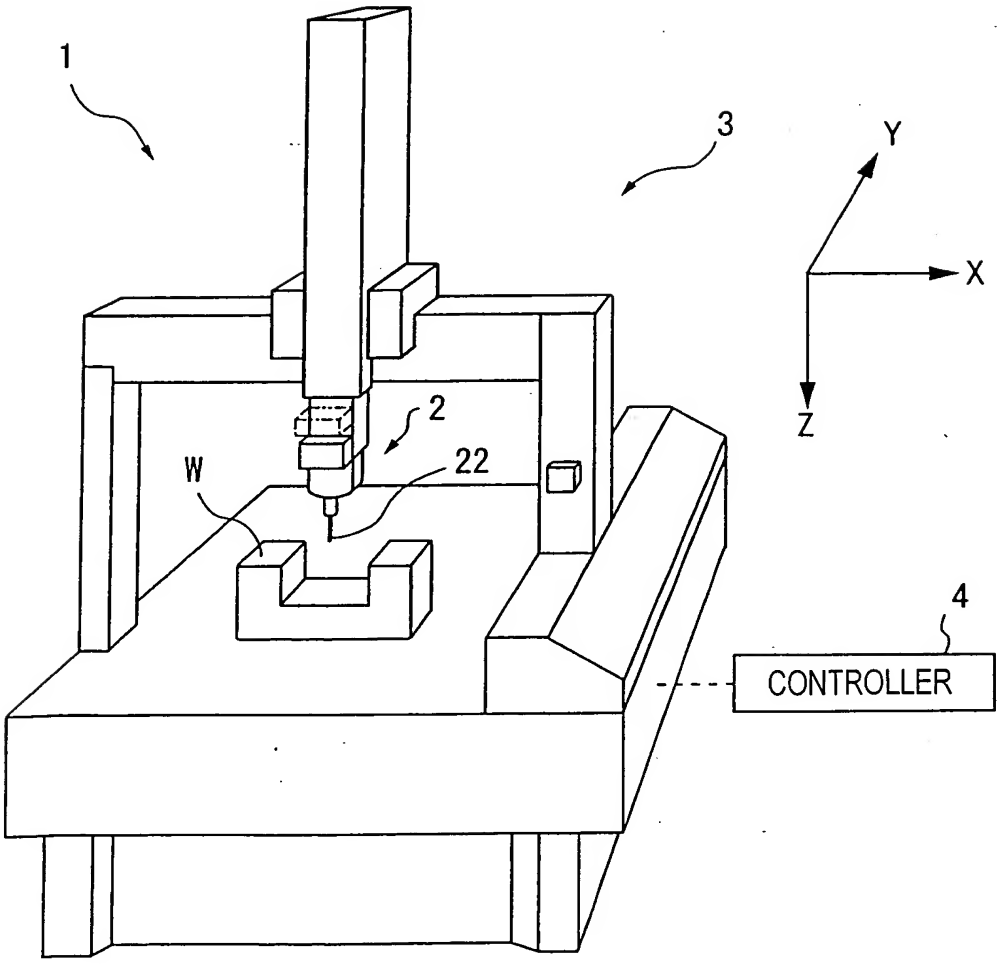
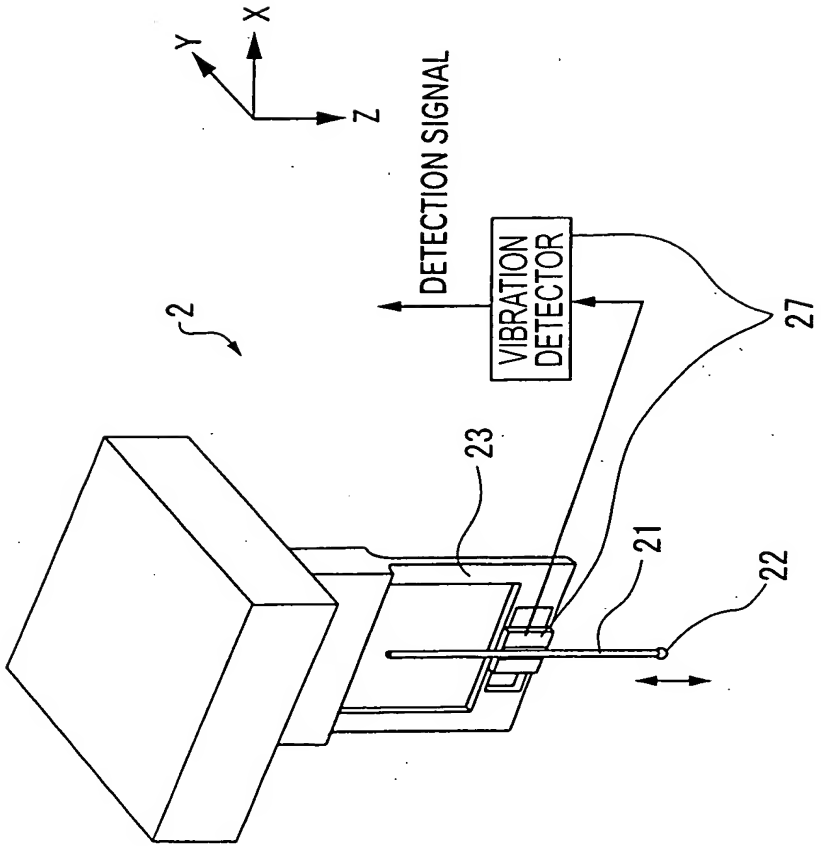
FIG. 15
PRIOR ART